

SUB

- b. coupled to the associated one of the electrical conductors; and
- b. an encasement into which the sensor assembly is placed for directing the flow of the analyte over the sensors, and preventing contact of the analyte with the second side of the substrate, including:
- i. an inlet for allowing the fluid analyte to enter the encasement;
 - ii. an outlet for allowing the fluid analyte to exit the encasement;
 - iii. a flow channel between the inlet and the outlet for allowing the fluid analyte to pass through the housing and over each of the sensors; and
 - iv. an opening at one side for exposing the electrical connector.

D 1

~~7.9~~ · (Twice Amended) The sensor cartridge of claim 1, wherein the [flowcell] flow channel has a total volume of approximately 0.05 [milliliters] milliliter.

D 2

~~8.10~~ · (Twice Amended) The sensor cartridge of claim 1, wherein the flow channel has a height of less than approximately 0.10 [inches] inch.

D 3

~~10.12~~ · (Amended) The sensor cartridge of claim 1, wherein the outside dimensions of the encasement are less than 0.5 [inches] inch by 0.2 [inches] inch by 0.25 [inches] inch.

D 4

~~13.8~~ · (Amended) The sensor cartridge of claim ~~12~~, wherein the reference channel is less than about 0.010 [inches] inch in diameter.

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19. (Amended) A sensor cartridge for a fluid analyte analyzer, comprising:

a housing having an inlet and an outlet and a flow channel for allowing the fluid analyte to enter the housing;

a sensor assembly disposed in said flow channel between the inlet and the outlet;

said sensor assembly, comprising:

[a] an electrically insulating substrate having a first side defined by a planar surface;

D 5

a plurality of sensors having a diameter between about 0.046 to about 0.078 inch deposited on said planar surface of said substrate;

a plurality of electrical conductors deposited on a second side of the substrate;

a plurality of subminiature thru-holes having a diameter in the range of about [0.002-.006 inches] 0.002 to 0.006 inch filled with electrically conductive material, each thru-hole disposed directly under a corresponding one of the sensors for coupling one of the sensors with one of the electrical conductors; and

an electrical connector disposed on the second side of the substrate, the connector having a plurality of electrical contacts, at least some of the electrical contacts corresponding one to one with an associated one of the electrical conductors and at least some of the electrical contacts being coupled to the associated one of the electrical conductors, said connector being accessible from the exterior of said housing.

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21. (Amended) The sensor cartridge of claim 19, wherein the flow channel has a height of less than approximately 0.10 [inches] inch and a volume of approximately 0.05 [milliliters] milliliter.